

## ABSTRACT

Low distortion is implemented even in a high input level, and a smooth change in gain is maintained. A first amplifier (10) with high gain and low noise that can be gain-controlled by a first gain control signal, and a second amplifier (20) with low gain and low distortion that can be gain-controlled by a second gain control signal are provided, and a third amplifier (30) is further coupled with an outputs of the first and the second amplifiers (10, 20). An input terminal of the first amplifier (10) and an input terminal of the second amplifier (20) are coupled with each other, and an output terminal of the first amplifier (10) and an output terminal of the second amplifier (20) are coupled with each other. The output of the first amplifier (10) is then turned on or off by a mode switching signal. A change in gain resulting from turning on and off the first amplifier (10) is corrected by the third amplifier (30).